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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MASKULINSKI, MICHAEL C

ART UNIT	PAPER NUMBER
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2113

DATE MAILED: 05/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/916,782

Applicant(s)

SMITH ET AL.

Examiner

Michael C Maskulinski

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/12 Oct. 2001</u> . | 6) <input type="checkbox"/> Other: _____ |

Non-Final Office Action

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. Claim 10 recites the limitation "the second one of the second plurality of devices" in line 3. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination the Examiner has interpreted this to mean "the first one of the second plurality of devices."

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 6, and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Chew, U.S. Patent 6,389,560 B1.

Referring to claim 1:

- a. In Figure 1 and in column 4, lines 1-5, Chew discloses the use of hubs on the USB that enables users to expand the number of devices which can be

connected to the computer system (setting a plurality of switching devices to cause a first plurality of devices to be coupled to a computer system).

b. Booting the computer system is inherent to the system of Chew.

c. In column 7, lines 18-19, Chew discloses that the test application runs a suite of tests to verify all of the USBAl function calls (detecting one or more errors associated with one or more of the first plurality of devices).

Referring to claim 6, in column 4, lines 36-38, Chew discloses that some USB devices server as both functional devices and hubs to which other devices can be attached (setting an additional switching device to cause one of a second plurality of devices to be coupled to one of the first plurality of devices).

Referring to claim 7, in column 4, lines 36-38, Chew discloses that some USB devices server as both functional devices and hubs to which other devices can be attached (setting a splitter device to cause a second plurality of devices to be coupled to the first plurality of devices).

5. Claims 1, 4, 5, and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Vrhel, Jr. et al., U.S. Patent 6,543,047 B1.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Referring to claim 1:

- a. In column 6, lines 52-58, Vrhel, Jr. et al. disclose that after hardware assembly, the target system is put into a burn rack (setting a plurality of switching devices to cause a first plurality of devices to be coupled to a computer system).
- b. Booting the computer system is inherent to the system of Vrhel, Jr. et al.
- c. In column 7, lines 62-67 continued in column 8, lines 1-7, Vrhel, Jr. et al. disclose that the outputs of HardTack are queried to determine whether or not any errors were detected (detecting one or more errors associated with one or more of the first plurality of devices).

Referring to claim 4, in column 10, lines 54-55, Vrhel, Jr. et al. disclose that errors will be logged if there are errors to report (storing the one or more errors into a log file on the computer system).

Referring to claim 5, in column 11, lines 64-67 continued in column 12, lines 1-3, Vrhel, Jr. et al. disclose that the device logs, including their respective failures, are copied into the standard factory failure logging mechanism (storing the one or more errors onto a storage device located remotely from the computer system).

Referring to claim 8, in column 10, lines 54-55, Vrhel, Jr. et al. disclose that errors will be logged if there are errors to report (subsequent to booting the computer system, performing one or more tests on the computer system using the first plurality of devices; and storing results associated with the one or more tests into a log file).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vrhel, Jr. et al., U.S. Patent 6,543,047 B1, and further in view of Jessen et al., U.S. Patent 5,410,681.

Referring to claim 2, in column 8, lines 59-61, Vrhel, Jr. et al. disclose that the FIST checks the customer's computer system to verify that the combination of hardware and software originally ordered by the customer is recognized and properly set up by the OS. However, Vrhel, Jr. et al. don't explicitly disclose subsequent to detecting the one or more errors, setting the plurality of switching devices to cause a second plurality of devices to be coupled to the computer system, the second plurality of devices including at least one device that is not included in the first plurality of devices. In column 2, lines 34-38, Jessen et al. disclose a means for testing a computer system repetitively such that any errors in a variety of computer hardware/software combinations may be reproduced and thus more easily eliminated. It would have been obvious to one of ordinary skill at the time of the invention to include the testing of a variety of hardware/software combinations of Jessen et al. into the system of Vrhel, Jr.

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et al. A person of ordinary skill in the art would have been motivated to make the modification because testing each combination ensures proper compatibility (see Jessen et al.: column 1, lines 18-22).

Referring to claim 3, in column 8, lines 22-37, Vrhel, Jr. et al. disclose that at the end of the software download/install phase, the computer system is rebooted, wherein the computer system enters an OS setup (subsequent to setting the plurality of switching devices to cause the second plurality of devices to be coupled to the computer system: rebooting the computer system; and detecting one or more errors associated with one or more of the second plurality of devices).

8. Claims 9-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vrhel, Jr. et al., U.S. Patent 6,543,047 B1, and further in view of Chew, U.S. Patent 6,389,560 B1.

Referring to claims 9 and 17:

a. In column 5, lines 18-19, Vrhel, Jr. et al. disclose that the assembled hardware is tested using software tools and utilities (a computer program product).

b. In column 6, lines 52-58, Vrhel, Jr. et al. disclose that after hardware assembly, the target system is put into a burn rack to test the hardware.

However, Vrhel, Jr. et al. don't explicitly disclose the type of hardware being tested nor setting a first switching device to cause a first one of a first plurality of devices to be coupled to a computer system; setting a second switching device to cause a first one of a second plurality of devices to be coupled to the computer

system. In Figure 1, and in column 4, lines 1-5, Chew discloses the use of hubs on the USB to enable users to expand the number of devices which can be connected to the computer system. It would have been obvious to one of ordinary skill at the time of the invention to include the USB system of Chew into the system of Vrhel, Jr. et al. A person of ordinary skill in the art would have been motivated to make the modification because USB is commonplace amongst computer systems and is just another hardware device in the computer system (see Chew: column 1, lines 52-67 and column 3, lines 41-62) and there is a need to test USB devices (see Chew: column 2, lines 28-37).

c. Booting the computer system is inherent to the systems of Chew and Vrhel, Jr. et al.

d. In column 4, lines 44-57, Chew discloses that the physical aspects of the USB interconnect are defined by the bus topology (detecting the first one of the first plurality of devices using the computer system; and detecting the first one of the second plurality of devices using the computer system).

Referring to claims 10 and 18, in column 7, lines 18-37, Chew discloses that the test application may spawn multiple threads to allow concurrent testing of the different endpoints (subsequent to detecting the first one of the first plurality of devices and the second one of the second plurality of devices, setting the first switching device to cause a second one of the first plurality of devices to be coupled to the computer system).

Referring to claims 11 and 19, in column 8, lines 22-37, Vrhel, Jr. et al. disclose that at the end of the software download/install phase, the computer system is rebooted,

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wherein the computer system enters an OS setup The computer system runs completely through the OS setup automatically and then reboots to the OS desktop. Upon reaching the desktop, the OS runs a prescribed software program, referred to herein as HardTack, that checks the computer system for any errors found during the OS setup (subsequent to setting the first switching device to cause the second one of the first plurality of devices to be coupled to the computer system; rebooting the computer system; and detecting the second one of the first plurality of devices using the computer system).

Referring to claims 12 and 20, in column 10, lines 54-55, Vrhel, Jr. et al. disclose that errors will be logged if there are errors to report (detecting an error associated with detecting the first one of the first plurality of devices; and storing the error into a log file on the computer system).

Referring to claims 13 and 21, in column 11, lines 64-67 continued in column 12, lines 1-3, Vrhel, Jr. et al. disclose that the device logs, including their respective failures, are copied into the standard factory failure logging mechanism (detecting an error associated with detecting the first one of the first plurality of devices; and storing the error into a log file on a storage device located remotely from the computer system).

Referring to claims 14 and 22, in Figure 1 and in column 4, lines 37-39, Chew discloses that some USB devices serve as both functional devices and hubs to which other devices can be attached (setting a third switching device to cause one of a third plurality of devices to be coupled to the first one of the first plurality of devices).

Referring to claims 15 and 23, in Figure 1 and in column 4, lines 37-39, Chew discloses that some USB devices serve as both functional devices and hubs to which other devices can be attached (setting a splitter device to cause a third plurality of devices to be coupled to the first plurality of devices).

Referring to claims 16 and 24, in column 7, lines 18-37, Chew discloses that the test application may spawn multiple threads to allow concurrent testing of the different endpoints (subsequent to detecting the first one of the first plurality of devices and the first one of the second plurality of devices, performing one or more tests on the computer system using the first one of the first plurality of devices and the first one of the second plurality of devices). Further, in column 10, lines 54-55, Vrhel, Jr. et al. disclose that errors will be logged if there are errors to report (storing results associated with the one or more tests into a log file).

Referring to claim 25:

a. In column 6, lines 52-58, Vrhel, Jr. et al. disclose that after hardware assembly, the target system is put into a burn rack to test the hardware. However, Vrhel, Jr. et al. don't explicitly disclose the type of hardware being tested nor a computer system that includes a first connection and a second connection; a first switching device coupled to the first connection; a first plurality of devices coupled to the first switching device; a second switching device coupled to the second connection; a second plurality of devices coupled to the second switching device; setting a first switching device to cause a first one of a first plurality of devices to be coupled to a computer system; setting a second

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switching device to cause a first one of a second plurality of devices to be coupled to the computer system. In Figure 1, Chew teaches a first connection and a second connection; a first switching device coupled to the first connection; a first plurality of devices coupled to the first switching device; a second switching device coupled to the second connection; a second plurality of devices coupled to the second switching device, and in column 4, lines 1-5, Chew discloses the use of hubs on the USB to enable users to expand the number of devices which can be connected to the computer system. It would have been obvious to one of ordinary skill at the time of the invention to include the USB system of Chew into the system of Vrhel, Jr. et al. A person of ordinary skill in the art would have been motivated to make the modification because USB is commonplace amongst computer systems and is just another hardware device in the computer system (see Chew: column 1, lines 52-67 and column 3, lines 41-62) and there is a need to test USB devices (see Chew: column 2, lines 28-37).

b. Booting the computer system is inherent to the systems of Chew and Vrhel, Jr. et al.

c. In column 4, lines 44-57, Chew discloses that the physical aspects of the USB interconnect are defined by the bus topology (detecting the first one of the first plurality of devices using the computer system; and detecting the first one of the second plurality of devices using the computer system).

Referring to claim 26, in Figure 1, Chew teaches a control module configured to cause the first switching device to be set to cause the first one of the first plurality of

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devices to be coupled to the computer system, and the control module configured to cause the second switching device to be set to cause the first one of the second plurality of devices to be coupled to the computer system.

Referring to claims 27, 28, and 29, in Figure 1, and in column 3, lines 63-67 continued in column 4, line 1, Chew discloses a computer system connected to several peripheral devices which are connected to the USB port on the computer system via hubs (wherein the control module includes at least one hardware component, one software component, and the computer system includes the control module).

Referring to claim 30, in column 2, lines 46-50, Chew discloses that the use of the command line interpreter allows the user to enter commands remotely, e.g., via a modem connected to the computer system (the control module is located externally from the computer system).

Referring to claim 31, in column 8, lines 22-37, Vrhel, Jr. et al. disclose that at the end of the software download/install phase, the computer system is rebooted, wherein the computer system enters an OS setup. The computer system runs completely through the OS setup automatically and then reboots to the OS desktop. Upon reaching the desktop, the OS runs a prescribed software program, referred to herein as HardTack, that checks the computer system for any errors found during the OS setup (the control module is configured to cause the computer system to boot subsequent to causing the first switching device to be set and causing the second switching device to be set).

Referring to claim 32, in Figure 1, Chew discloses causing the first and second switching devices to cause a second one of the plurality of devices to be coupled to the computer system, and in column 7, lines 18-37, Chew that the test application may spawn multiple threads to allow concurrent testing of the different endpoints (the control module is configured to cause the first switching device to be set to cause a second one of the first plurality of devices to be coupled to the computer system, and wherein the control module is configured to cause the second switching device to be set to cause a second one of the second plurality of devices to be coupled to the computer system).

Referring to claim 33, in column 8, lines 22-37, Vrhel, Jr. et al. disclose that at the end of the software download/install phase, the computer system is rebooted, wherein the computer system enters an OS setup. The computer system runs completely through the OS setup automatically and then reboots to the OS desktop. Upon reaching the desktop, the OS runs a prescribed software program, referred to herein as HardTack, that checks the computer system for any errors found during the OS setup (the control module is configured to cause the computer system to be rebooted subsequent to causing the first switching device to be set to cause the second one of the first plurality of devices to be coupled to the computer system).

Referring to claim 34, in Figure 1 and in column 4, lines 37-39, Chew teaches a third switching device coupled to the first plurality of devices; and a third plurality of devices coupled to the third switching device; the third switching device able to be set to cause one of the third plurality of devices to be coupled to the first one of the first plurality of devices.

Referring to claim 35, in Figure 1 and in column 4, lines 37-39, Chew teaches a third switching device coupled to the first plurality of devices; and a third plurality of devices coupled to the third switching device; the third switching device able to be set to cause one of the third plurality of devices to be coupled to the first one of the first plurality of devices.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 6,442,712 B1	Jeon
U.S. Patent 5,504,689	Fiebrich et al.
U.S. Patent 5,495,584	Holman, Jr. et al.
U.S. Patent 4,964,124	Burnett
U.S. Patent 4,837,764	Russello


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C Maskulinski whose telephone number is (703) 308-6674. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert W Beausoliel can be reached on (703) 305-9713. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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